



SOME OF THE GASES IN THE AIR LET THE SUN'S HEAT IN, BUT TRAP THE EARTH'S HEAT GOING OUT.



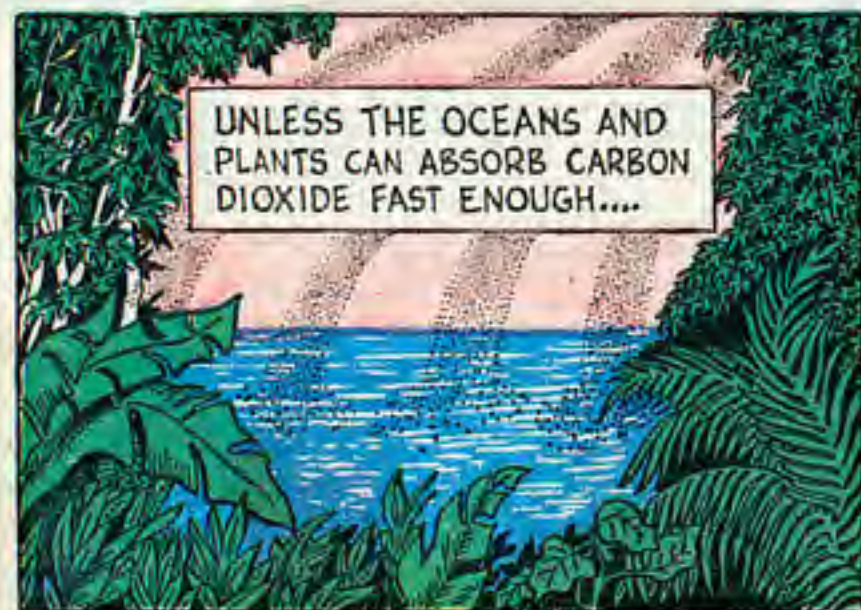
IN THE TROPICS, WATER VAPOR ALSO TRAPS HEAT...



WE LIVE IN A GREENHOUSE!
LIKE GLASS, CARBON DIOXIDE LETS SUN-LIGHT AND HEAT IN, BUT PREVENTS THE EARTH'S HEAT FROM ESCAPING.



WE KEEP ADDING CARBON DIOXIDE TO THE AIR BY OUR BURNING OF COAL, WOOD, AND OIL.



UNLESS THE OCEANS AND PLANTS CAN ABSORB CARBON DIOXIDE FAST ENOUGH....



....THE EARTH'S SURFACE MAY SOME DAY WARM UP ENOUGH TO MELT THE POLAR ICE — WHICH WOULD RAISE THE SEA LEVEL AND SUBMERGE COASTAL CITIES AND LOW-LYING PLAINS!



EARL CROS

OUR NEW AOT

EXPERIMENTAL CITY

By Katherine Tegen



THE CITY OF EXPERIMENTAL CITY IS A PLACE WHERE THE FUTURE IS BEING BUILT. THE CITY IS A PLACE WHERE THE FUTURE IS BEING BUILT. THE CITY IS A PLACE WHERE THE FUTURE IS BEING BUILT.

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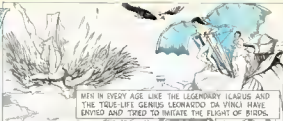


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NEW AGE

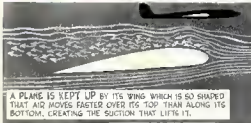
BY ATHELSTAN GILHAUS
DEAN, UNIVERSITY OF MINNESOTA
INSTITUTE OF TECHNOLOGY AND
EARL CROS



MEN IN EVERY AGE LIKE THE LEGENDARY ICARUS AND THE TRUE-LIFE GENIUS LEONARDO DA VINCI HAVE ENVIED AND TRIED TO IMITATE THE FLIGHT OF BIRDS.



IN 1903, THE WRIGHT BROTHERS STAYED UP FOR 59 SECONDS IN MAN'S FIRST **POWERED** FLIGHT.



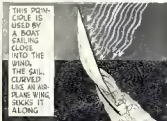
A PLANE IS KEPT UP BY ITS WING WHICH IS SO SHAPED THAT AIR MOVES FASTER OVER ITS TOP THAN ALONG ITS BOTTOM, CREATING THE SUCTION THAT LIFTS IT.



A SPINNING BASEBALL CURVES TO THE SIDE WHERE THE SPIN INCREASES THE AIR MOTION.



AIR HAS TWO KINDS OF ENERGY-- OF **PRESSURE** AND OF **MOVEMENT**. TO REDUCE AIR PRESSURE, YOU INCREASE AIR MOTION. SEE WHAT HAPPENS WHEN YOU BLOW ALONG THE TOP OF A PIECE OF PAPER.



THIS PRINCIPLE IS USED BY A BOAT SAILING CLOSE INTO THE WIND. THE SAIL, CURVED LIKE AN AIR-PLANE WING, SUCKS IT ALONG

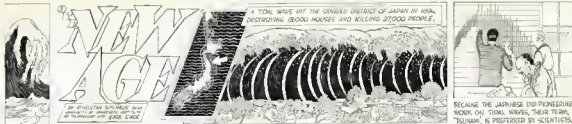


HELICOPTERS RISE VERTICALLY BECAUSE THEIR ROTATING WINGS LOWER THE AIR PRESSURE, WHICH PULLS THEM UP.



AERODYNAMICS KEEPS FINDING NEW WAYS TO FLY, SUCH AS THE FLYING JEEP WHICH DRAWS AIR IN ON TOP AND BLOWS IT OUT BELOW. WE MAY EVEN FLY **BUCKLES** WITH ONE-MAN-POWER!

THE JET ENGINE REVERSED THE OLD DYNAMICS, TOO



NEW AGE

AN ETHIOPIAN SCIENTIST HAS
ANNOUNCED THE EXISTENCE OF A
NEW TYPE OF TIDAL WAVE.

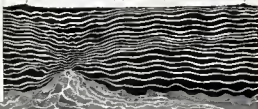
A TIDAL WAVE HIT THE SHANSHU DISTRICT OF JAPAN IN 1894,
DESTROYING 13,000 HOUSES AND KILLING 27,000 PEOPLE.



BECAUSE THE JAPANESE DID PIONEERING
WORK ON TIDAL WAVES, THEIR TERM,
"TSUNAMI," IS PREFERRED BY SCIENTISTS.

TIDAL WAVES ARE
NOT CAUSED BY
TIDES, BUT BY
UNDERSEA EARTH-
QUAKES. AT SEA
THEY ARE HARD TO
DETECT BECAUSE
THEY'RE ONLY A FEW
FEET HIGH AND 100
MILES OR MORE
FROM CREST TO
CREST. THEY TRAVEL AT
400 MILES PER HOUR.

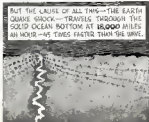
100 MILES PER HOUR



AS THE WAVE
APPROACHES
LAND, BOTTOM
FRICTION SLOWS
DOWN ITS SPEED,
PILING UP THE
WATER AS HIGH
AS A TEN-
STORY BUILDING!



WHEN THIS WALL OF WATER—ONE OF THE
MOST DESTRUCTIVE FORCES IN NATURE—HITS
A COAST THE DEVASTATION IS ENORMOUS!



BUT THE CAUSE OF ALL THIS—THE EARTH
QUAKE SHOCK—TRAVELS THROUGH THE
SOLID OCEAN BOTTOM AT 18,000 MILES
AN HOUR—45 TIMES FASTER THAN THE WAVE.

GO A NETWORK
OF EARTHQUAKE
RECORDERS NOW
GIVES AMPLE
WARNING OF
COMING TIDAL
WAVES TO SAVE
LIFE AND
PROPERTY BY
EVACUATING
THREATENED
COASTAL
AREAS.



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OUR NEW AGE

BY ARTHUR SCHENK
WITH ILLUSTRATIONS BY JIMMY
AND JIMMY

Behind every archaeological exhibit lies a story of plain hard digging and painstaking study to fit together the jigsaw puzzle of Man's past life and history.



For instance the ROSSETTA STONE, found in Egypt in 1799, was inscribed in three languages. The known Greek decoded the then unknown Egyptian hieroglyphic.

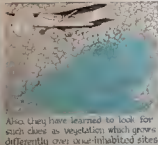
ARCHEOLOGISTS uncover early cultures and civilizations wiped out by war and pestilence and buried by shifting sands and natural disasters.



Miners, engineers, and even children have found relics - historic and prehistoric - by chance.



Now, with the aid of modern water photography and other techniques,



Also, they have learned to look for such clues as vegetation which grows differently over once-inhabited sites.

OUR NEW AGE, with its cinema microfilm TV tapes and records, will enable archeologists of 6959 A.D. to step back into the 20th Century at the flick of a switch.

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NEW AGE

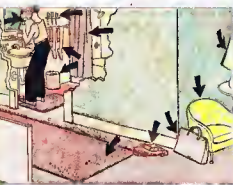
BY ATHELSTAN SPILHAUS, DEAN
UNIVERSITY OF MINNESOTA, INSTITUTE OF TECHNOLOGY
AND EARL CROS

The first artificial plastic—celluloid—was made a century ago of camphor and cellulose nitrate, to substitute for the ivory in billiard balls and piano keys.



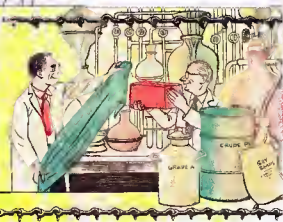
The celluloid collars and cuffs of those days were brittle and inflammable.

MORE PLASTICS are used today than *any* metal except iron!



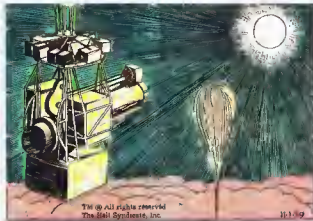
They've replaced many natural products of wood, metal, cotton, silk, resins, rubber, etc., in the things we use.

Chemists make plastics from such common materials as milk, soybeans and petroleum by hooking together thousands of small molecules into long chain molecules called "high polymers".



Man-made elastic plastics have molecular chains like springs, just as in natural rubber.

Other plastics with stronger chemical bonds do *not* stretch. They can now be arranged in parallel coils which grip each other to make "isotactic" plastics of even greater strength!



Plastic balloons, only $\frac{1}{10000}$ th of an inch thick, hold millions of cubic feet of helium, and lift tons of scientific equipment above most of the atmosphere, to study the sun, to count cosmic rays, and to gather data for living in space!

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The Ball Syndicate, Inc.

11-1-59

OUR NEW AGE

By Athelstan Spilhaus and Earl Cros

ECLIPSE EXPEDITIONS are a grand gamble! For the October 2nd solar eclipse, we took nine scientists thousands of miles to three separate stations in the middle of the Sahara...



and set up telescopes, generators and electronic recorders to see the moon hide the sun for three minutes!



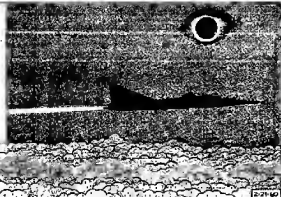
At one station, we were thirty miles from water, among snakes and scorpions in 120° heat. Dust whirls or swarming locusts might have ruined everything, but a 95% certainty of clear skies made it all worth while.

I wanted to find out if trapped radiation causes the apparent million degree temperature of the sun's corona (its atmosphere). The expedition leader was so busy checking apparatus, he never saw the eclipse!

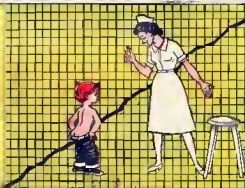


But we got *millions* of bits of recorded data. Those three minutes will take months to analyze.

Soon, automatically navigated supersonic airplanes will be able to keep up with an eclipse as it sweeps across the earth at over 1000 mph. and observe it for hours instead of minutes!



POPULATION grows as medical science advances. In the United States, more than 22 years have been added to the average lifetime since 1900.



Right now, for every 1000 people, there are 30 births and 15 deaths each year — a net increase of 15 people per 1000 per year.

Population increases like compound interest at 1.7% in the year 2000 A.D. the world count could be 5 billion with 75 million new people coming along in *that* year alone!



The suggestion that the crowding could *then* be relieved by emigration to other planets—even if it were possible to survive there—is ridiculous! We'd need a million space ships, each carrying 75 passengers—a ship leaving Earth every 31 seconds—just to stay even!





NEW AGE

BY ATILANO STELLA
 NEW CONCEPTS OF SAFETY
 THROUGH THE FUTURE OF
 ROAD DRIVING

40,000 people are killed on highways every year and up to 5 million are injured. Auto accidents are the leading cause of death between the ages of 15 and 24.



In the Korean War, more Air Force personnel were put out of action in traffic accidents than by enemy action.

SAFETY is part of all good engineering. For example in presses which could cut off an arm or a hand both hands must push buttons to activate the machine.



Highways must also be engineered for safety—to outdate such hazards as cars racing toward each other at 60 mph on a two-lane road.

We already have divided highways, elaborate cloverleaf overpasses, rough shoulders (to house sleepy drivers), "singing" white lines, radar speed checks, and other accident prevention devices.



Our cars can be built for life-saving—with seatbelts, speed buzzers and other devices—but drivers can't be safely engineered especially against hurry, carelessness, and drowsiness.

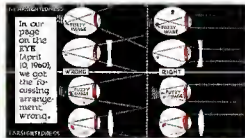
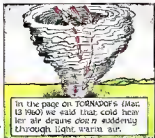
Safety engineering may yet take complete control from the driver on major highways. A pre-set, sender-receiver in the car will pick up signals from electronic control stations governing speed, steering and stopping, thus programming the driver safely on his way.



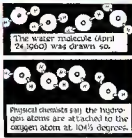
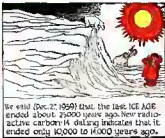
OUR NEW AGE

By Athelstan Spilhaus and Earl Cros

SCIENTISTS are human—and those who write and draw science are human too. In the two years of working on OUR NEW AGE, we have made these boners...



In MUSCLES (Oct. 18, 1959) we called sugar a hydrocarbon. It is a carbohydrate. Coal and oil are hydrocarbons made of hydrogen and carbon atoms only. Carbohydrates have oxygen atoms as well.

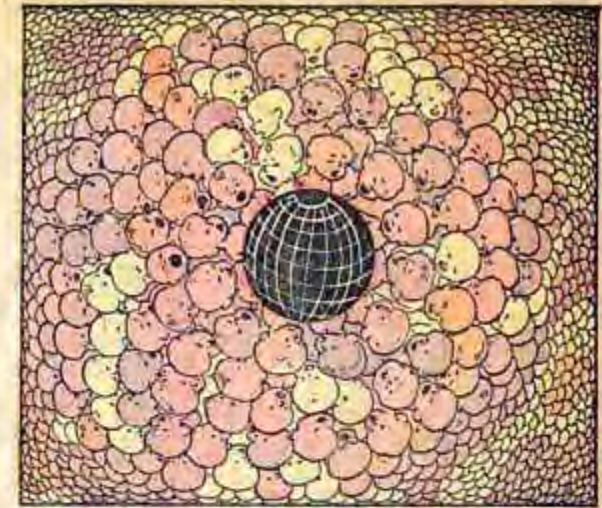




NEW AGE?

Fully one-half the people of this world — 1,500,000,000 of them — live in misery. Not enough food, not enough fuel, not enough water, not enough minerals.

BY ATHELSTAN SPILHAUS,
DEAN, UNIVERSITY OF MINNESOTA
INSTITUTE OF TECHNOLOGY AND
EARL CROS, NCS



Every day, all over the world, 100,000 new mouths are born to be fed.

THE BASIC PROBLEM OF SCIENCE is *not* exploration of space (which is important enough) but to raise the living standard of *all* the peoples of the earth—to find for them better sources of food, fuel, shelter, and *fresh* water.

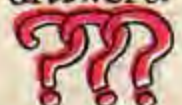


The sea—three-quarters of the planet's surface—has all the food, water, minerals, and even fuel we'd ever need, but except for the food, we have still to find *practical* ways of getting them out.



Granite has enough thorium and uranium in every ton to equal *fifty tons* of coal in energy, but Science must find a way to extract it with *less* energy than it will produce, to make it worth while.

Chancellor C. C. Furnas of the University of Buffalo poses three simple questions with complicated and as yet unknown answers.



What makes grass green? When we know, we may short cut plant growth and "make" all the food we need.



How does the oyster get its copper? When we know, we may "mine" the sea for every mineral we need.



What makes it rain? When we know, we may be able to make the deserts (15% of the land on earth) liveable.



NEW AGE

BY ATHELSTAN SPILHAUS,
DEAN, UNIVERSITY OF MINNESOTA
INSTITUTE OF TECHNOLOGY AND
EARL CROS



The earliest records were hieroglyphs cut into clay or stone tablets....



...which were permanent, but not very portable and certainly not compact.



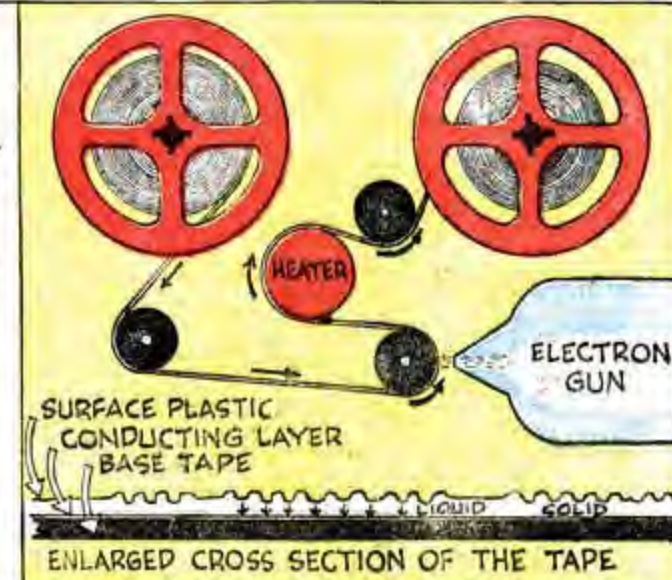
Papyrus, paper and printing made it a lot easier to write and store records.

PRINTED RECORDS of Man's art and science now fill vast buildings, and librarians are drowning in an ever-rising sea of paper....

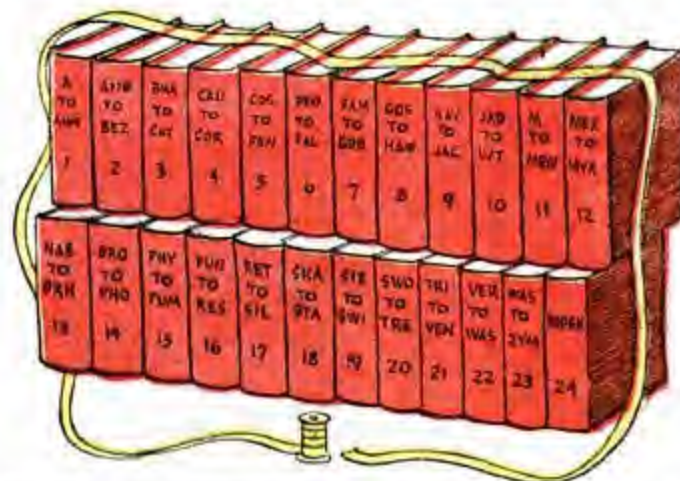


so science has found new, compact ways of storing information, such as micro-films and magnetic tapes.

In a still newer use of tape, a fine electron beam—as in a TV picture tube—spots electric charges on a plastic surface layer of tape. When this is softened by heat, the charges, attracted to a conducting layer underneath, form "bumps" which solidify when the tape cools.



A special projection system shows up the microscopic hills and valleys as light and dark spots, so fine that 40 million fit into a square inch—and give the same detail as a home movie film, in 1/100th the area.



A 24-volume encyclopedia can be reduced to the size of a spool of thread.

This tape can record sound and color, too! You may be able to contain your library of books, music, and movies in one shoe box—and even tape your favorite television programs—all on the same home system.





NEW AGE

BY ALEXANDER SPILAK
Illustrations by SPILAK
and
BAIL CHAN

From the time of the first lighthouse—built about 7000 years ago near Alexandria, Egypt—the lighthouse has been the sailor's friend.



That ancient lighthouse keeper was probably too busy to be lonesome. He kept his light going with a great wood fire!



LIGHTHOUSES no longer just have lights and foghorns. They also have underwater sonars, radar and radio in their warning systems. Some are manned—others are completely automatic.



...and lightships with the same equipment, are moored in shallow waters, where no rocks stick out for a lighthouse foundation.



But lightships are being replaced by "Totes Towers"—so called because they were first used in undersea oil drilling.



These man-made islands will help in defense, navigation, weather observation, ocean research and sea rescues as well as warning of shoals.



COMPARISON
WITH A
40 STORY
BUILDING

And now, groups of others are planning giant, deep sea bases, hundreds of feet long with helicopter platforms, scientific laboratories, and housing for many people. They will even have underwater elevators with bathyspheres attached to go all the way to the bottom.

OUR NEW AGE

by Athelstan Spilhaus



CURRENTS STIR THE OCEAN ALL THE WAY DOWN, AND OCEANOGRAPHERS WANT TO KNOW HOW FAST THIS STIRRING IS. HOW LONG DOES THE DEEP COLD ANTARCTIC WATER TAKE TO MIX WITH SURFACE WATER THOUSANDS OF MILES AWAY?



TO FIND OUT, A LIPSTICK AND BIRTHDAY CANDLE DYE CALLED **RODAMINE** WILL BE DUMPED INTO THE OCEAN TO SEE HOW IT SPREADS...



USING A "**FLUOROMETER**" WHICH CAN DETECT ONE PART OF DYE IN **50 BILLION** PARTS OF THE SEA WATER.



THIS LIPSTICK DYE WILL TELL US HOW FOOD ELEMENTS ARE STIRRED UP TO INCREASE THE SEA'S HARVEST, HOW THE COLD BOTTOM WATER AFFECTS OUR CLIMATES, AND WHETHER IT'S SAFE TO DUMP RADIOACTIVE WASTES IN THE DEEP OCEANS.

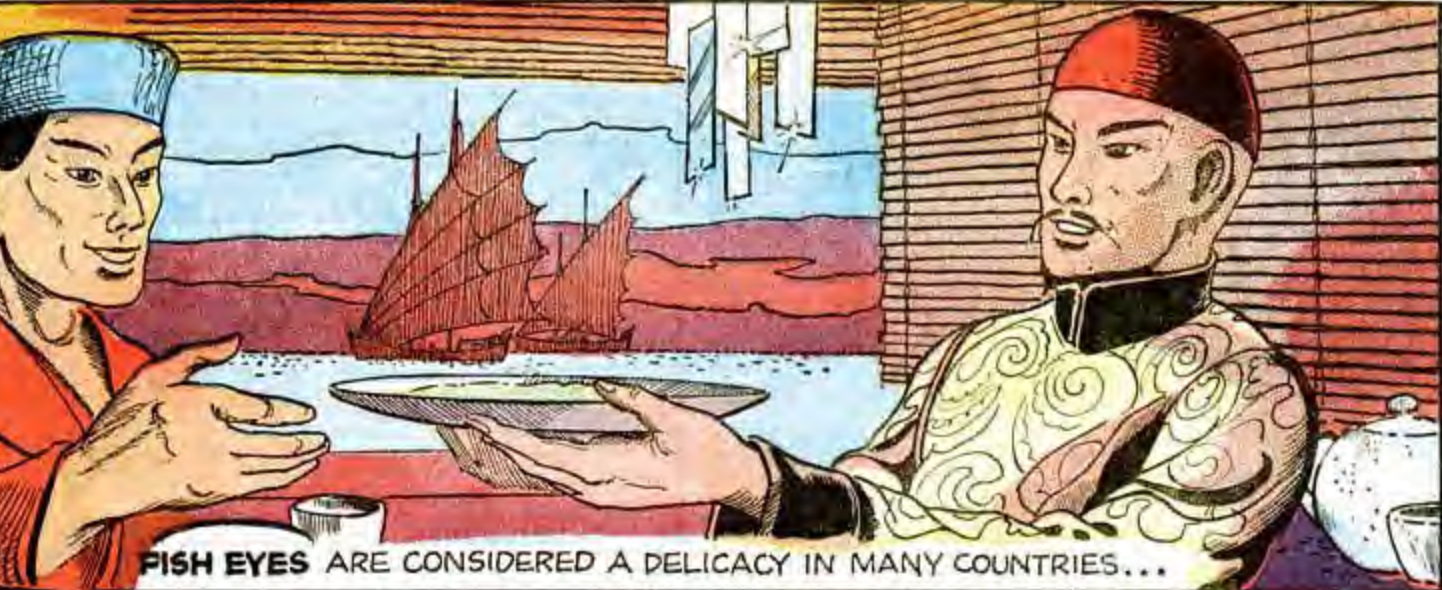


EC FELTON



OUR NEW AGE

by
ATHELSTAN SPILHAUS
DEAN, UNIVERSITY OF MINNESOTA
INSTITUTE OF TECHNOLOGY



FISH EYES ARE CONSIDERED A DELICACY IN MANY COUNTRIES...



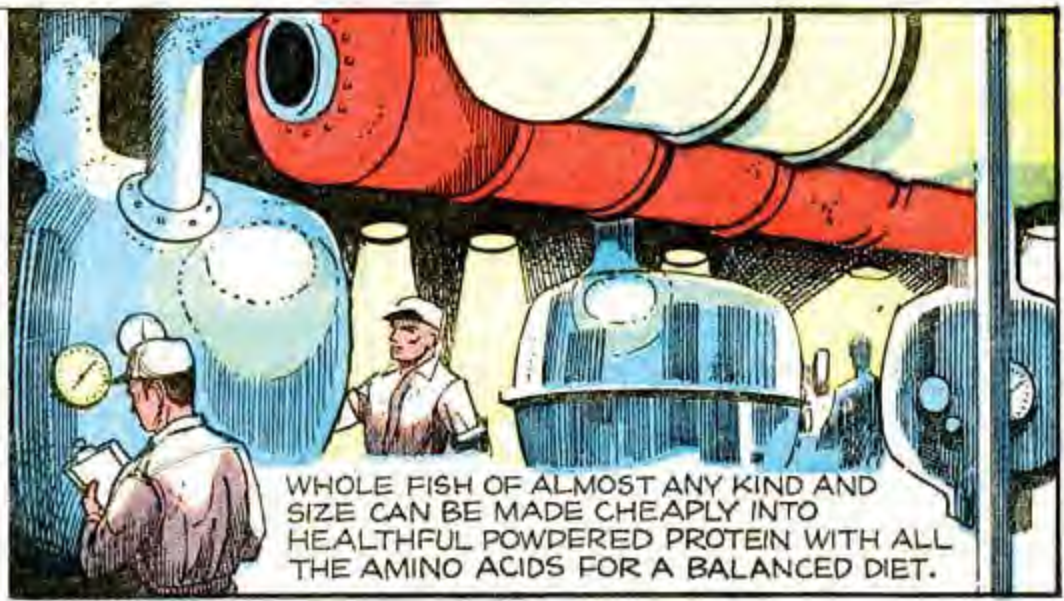
AND MANY FLY FISHERMEN LIKE THE CHEEK OF THE TROUT BEST.



MOST PEOPLE PREFER FILLETS OF LARGE FISH THAT EAT OTHER FISH — SO SMALL, BONY, GRAZING FISH ARE THROWN BACK AS **WEEDS OF THE SEA.**



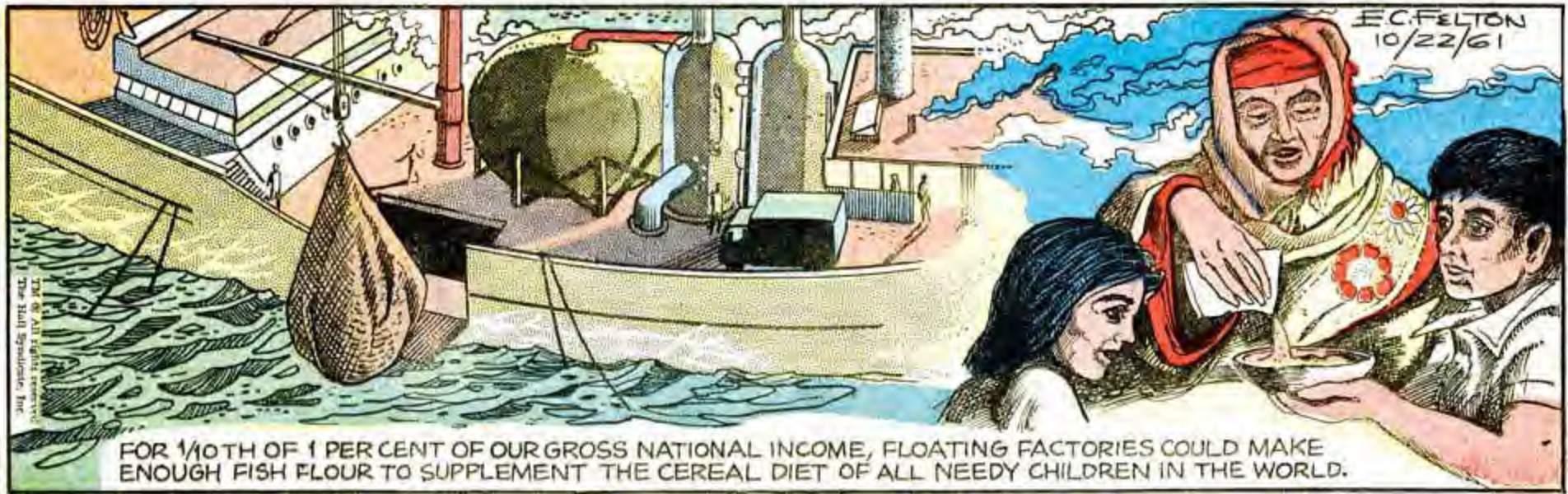
GOVERNMENT OFFICIALS **BAN** THE PROCESSING OF FISH HEADS AND TAILS ON "AESTHETIC" GROUNDS — THOUGH THEY THEMSELVES PROBABLY EAT CLAMS, OYSTERS, AND MUSSELS WHOLE!



WHOLE FISH OF ALMOST ANY KIND AND SIZE CAN BE MADE CHEAPLY INTO HEALTHFUL POWDERED PROTEIN WITH ALL THE AMINO ACIDS FOR A BALANCED DIET.



AND THIS FISH FLOUR IN PLASTIC BAGS WILL KEEP WITHOUT REFRIGERATION.



FOR 1/10TH OF 1 PER CENT OF OUR GROSS NATIONAL INCOME, FLOATING FACTORIES COULD MAKE ENOUGH FISH FLOUR TO SUPPLEMENT THE CEREAL DIET OF ALL NEEDY CHILDREN IN THE WORLD.

E.C. FELTON
10/22/61



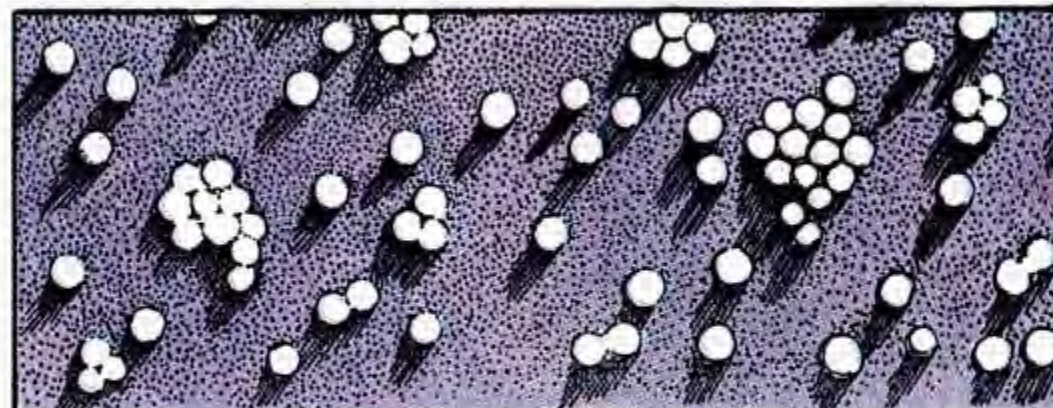
PERHAPS COMMUNICATION SATELLITES WILL EVEN SOLVE THE TRAFFIC PROBLEM! EXECUTIVES WILL DIRECT FACTORIES BY REMOTE CONTROL AND GET TOGETHER ON "SATELLITE TV CONFERENCE CALLS" WHILE THEY STAY IN THEIR OWN LIVING ROOMS!



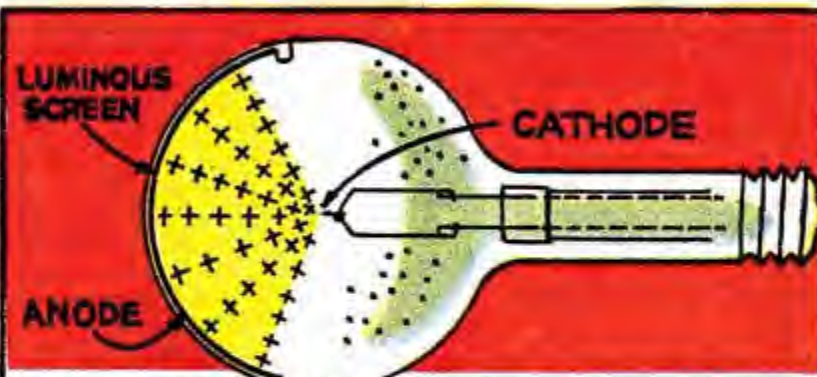


MODERN OPTICAL MICROSCOPES

CAN MAGNIFY TINY THINGS UP TO 3000 TIMES, BUT BEYOND THIS, THE LIGHT WAVES SKIP AROUND ANYTHING SMALLER... THE **ELECTRON MICROSCOPE** FOCUSES A BEAM OF NEGATIVELY CHARGED ATOMIC PARTICLES (*ELECTRONS*) BY MAGNETIC LENSES TO MAKE AN IMAGE MAGNIFIED HUNDREDS OF THOUSANDS OF TIMES...



...ON A TV-LIKE SCREEN — AND WITH IT WE CAN SEE HOW A VIRUS IS BUILT. YET EVEN ELECTRONS CANNOT DISTINGUISH BETWEEN INDIVIDUAL ATOMS.



BUT IN THE LATEST "**FIELD ION MICROSCOPE**" A BILLION ATOMS OF HELIUM A SECOND TOUCH THE TIP OF A FINE WIRE, BECOME POSITIVELY CHARGED, AND STREAM TO THE SCREEN...



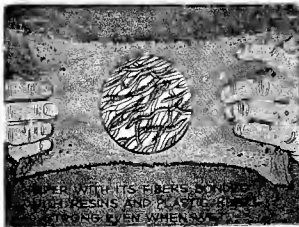
... GIVING PICTURES MAGNIFIED *MILLIONS* OF TIMES, SHOWING THE LATTICE-WORK ARRANGEMENT OF ATOMS LESS THAN ONE 100-MILLIONTH OF AN INCH APART!

OUR NEW AGE

by Athelstan Spilhaus



TON OF PAPER IS USED PER YEAR BY EACH FAMILY IN THE UNITED STATES, AND ALTHOUGH PAPER'S MOST IMPORTANT USE IS STILL FOR NEWSPAPERS, MAGAZINES AND BOOKS, NEW USES ARE GROWING EVERY DAY.



THIS "WET-STRENGTH" PAPER MAKES HATS, TOWELS, SHEETS, FURNITURE, SAILS! IN PAPER FACED WITH ALUMINUM FOIL YOU CAN COOK AND SERVE A MEAL!



CHEMISTS HAVE EVEN PRODUCED A SPECIAL PAPER FOR SPIES . . . IT BURNS LEAVING NO ASH!

DIET FAOS AND FOOD TABOOS "STARVE" THE WORLD—STRICT VEGETARIANS, FOR INSTANCE, CAN DEVELOP VITAMIN B-12 DEFICIENCY DISEASES—MEN'S TEETH AND STOMACH ACIDS ARE DESIGNED TO CHEW AND DIGEST MEAT, TOO.



GERIATRIC foods



DIFFERENT PEOPLE NEED DIFFERENT FOODS. AND JUST AS BABY NEEDS BABY FOOD, MANY OLDER PEOPLE COULD USE TASTY, ECONOMICAL FOODS MADE EASY TO PREPARE, CHEW AND DIGEST SPECIALLY FOR THEM.

MERRY CHRISTMAS

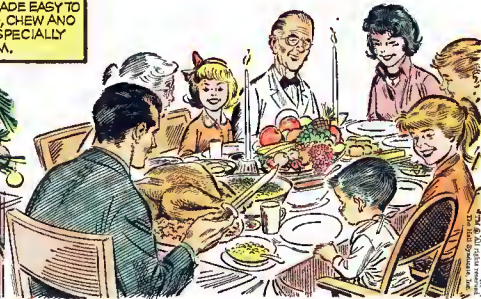
GENE FAWCETT

12/23

STRANGELY, THE HEREROS OF SOUTHWEST AFRICA EAT PRACTICALLY NOTHING BUT CHOLESTEROL FILLED MEAT FAT AND MILK—MODERN THEORIES SAY THEY SHOULD DIE PREDOMINANTLY OF HEART DISEASE, BUT THEY DON'T!



AMID ALL THIS CONFUSION ABOUT DIETS, THE ONE THING DOCTORS AGREE ON IS THAT IT'S BEST TO EAT A CHOICE OF FRESH FOODS WITH AS LITTLE PREPARATION AS POSSIBLE —



OUR NEW AGE

TACONITE

IS CONCENTRATED IN NATURE BY COMPLEX INTERACTIONS OF VOLCANIC HEAT, CHEMICALS AND PRESSURES AND WIND AND RAIN. TACONITE IS AN IRON ORE THAT IS NOT NATURALLY RICH ENOUGH TO USE FOR MAKING STEEL.



EVEN SO—IT'S MINED BY PIERCING THE TOUGH ROCK WITH A 4,000 DEGREE KEROSENE AND OXYGEN FLAME!



THEN GIANT COFFEE GRINDERS CONSISTING OF ROD AND BALL MILLS GRIND IT FINE AS FACE POWDER...



...SO THAT MAGNETS CAN TAKE THE IRON-RICH PART TO MAKE CUSTOM TAILORED MARBLES OF 67% IRON—IDEAL FOR THE STEELMAKERS' BLAST FURNACES!

OUR NEW AGE

—by—
ATHELSTAN SPILHAUS
DEAN UNIVERSITY OF MINNESOTA
INSTITUTE OF TECHNOLOGY



NATURAL RUBBER THAT BOUNCES BACK AFTER DEFORMING OR STRETCHING IS A MATERIAL TAPPED FROM A TREE, "HEVEA BRASILIENSIS", SOMEWHAT AS WE TAP MAPLE SUGAR...

...BUT LAST YEAR 75% OF OUR TOTAL RUBBER NEEDS WERE SATISFIED BY SYNTHETICS.



SILICONES

COMBINATIONS OF INORGANIC SILICON SAND AND ORGANIC HYDROCARBONS FROM OIL...WERE MADE IN 1930 AND USED AS VARNISHES FOR ELECTRICAL INSULATION...NOW THEY COME AS RUBBER, FLUIDS, AND LUBRICANTS,



THEIR TWO GREAT PROPERTIES ARE...

THEY WITHSTAND HIGH TEMPERATURES...

AND REMAIN FLEXIBLE AT LOW TEMPERATURES!

AT 200° BELOW ZERO, SILICONE RUBBERS STILL BEND AND GREASES STILL FLOW!



A 1/4" SLAB OF SILICONE CAN WITHSTAND 5000° ON ONE SIDE WHILE YOU HOLD YOUR HAND ON THE OTHER!



BECAUSE SILICONES REMAIN FLEXIBLE AND WITHSTAND EXTREME HEAT AND COLD AND INSULATE FROM THEM, THEY MAY BE IDEAL MATERIAL FOR MOON SUITS!

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OUR NEW AGE

— by —
ATHELSTAN SPILHAUS
DEAN, UNIVERSITY OF MINNESOTA
INSTITUTE OF TECHNOLOGY



FUTURE ARCTIC CITIES MAY BE
TOTALLY ENCLOSED IN HUGE
PLASTIC PDMMES.



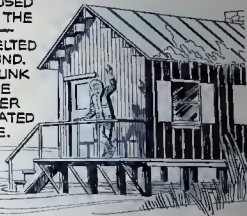
PEDDLE ARE PUSHING NORTH
TO THE ARCTIC BECAUSE OF
POPULATION PRESSURES
AND IN SEARCH OF VALUABLE
MINERALS.

PERMAFROST.

GROUND THAT IS PERMANENTLY FROZEN,
COVERS HALF OF CANADA AND GREAT
AREAS OF RUSSIA. IT CREATES
PROBLEMS IN BUILDING FOUNDATIONS,
WATER SUPPLY,
AND SEWERS!

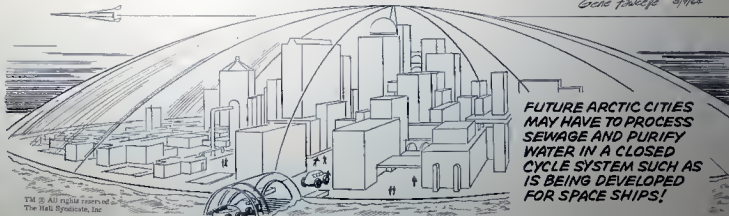


ARCTIC BUILDINGS USED
TO SINK MOSTLY ON THE
KITCHEN CORNER —
WHERE THE HEAT MELTED
THE FROZEN GROUND.
NOW LONG PILES, SUNK
DEEP TO WHERE THE
PERMAFROST NEVER
THAWS, KEEP ELEVATED
BUILDINGS STABLE.



IN PERMAFROST AREAS, ROADS
HEAVE AND BUILDINGS SINK IN
SUMMER WHEN THE UPPER FEW
FEET OF FROZEN GROUND THAWS.

WATER MAINS, AND SEWERS TOO, ARE
PLACED ABOVE THE GROUND AND HEATED
BY ELECTRICITY TO PREVENT FREEZING
— BUT THIS IS FAR TOO EXPENSIVE.

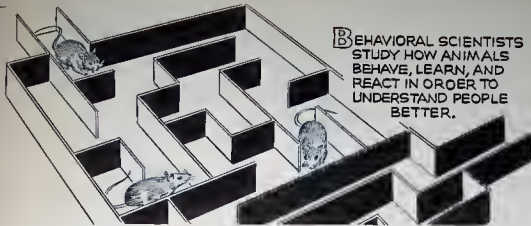


FUTURE ARCTIC CITIES
MAY HAVE TO PROCESS
SEWAGE AND PURIFY
WATER IN A CLOSED
CYCLE SYSTEM SUCH AS
IS BEING DEVELOPED
FOR SPACE SHIPS!



OUR NEW AGE

—by—
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INSTITUTE OF TECHNOLOGY



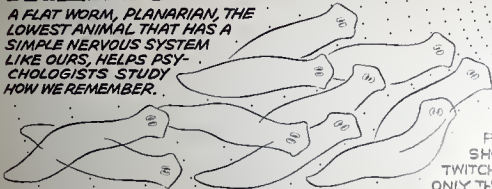
BEHAVIORAL SCIENTISTS
STUDY HOW ANIMALS
BEHAVE, LEARN, AND
REACT IN ORDER TO
UNDERSTAND PEOPLE
BETTER.



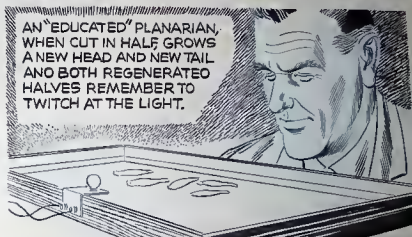
THE REACTIONS OF BABY
MONKEYS TO REAL AND ARTIFICIAL
MOTHERS GIVE CLUES
AS TO WHAT WE SHOULD DO.

MEMORY

A FLAT WORM, PLANARIAN, THE
LOWEST ANIMAL THAT HAS A
SIMPLE NERVOUS SYSTEM
LIKE OURS, HELPS PSY-
CHOLOGISTS STUDY
HOW WE REMEMBER.

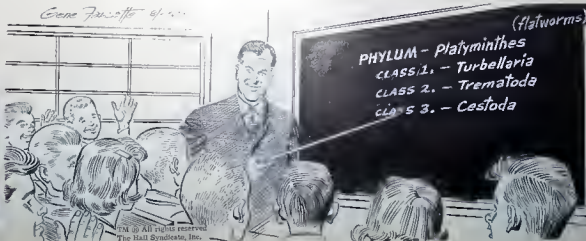


PLANARIANS ARE
"TAUGHT" WITH A
SIMULTANEOUS LIGHT
FLASH AND ELECTRIC
SHOCK—THEY LEARN TO
TWITCH FOR THE SHOCK WHEN
ONLY THE LIGHT IS FLASHED!



AN "EDUCATED" PLANARIAN,
WHEN CUT IN HALF GROWS
A NEW HEAD AND NEW TAIL
AND BOTH REGENERATED
HALVES REMEMBER TO
TWITCH AT THE LIGHT.

THIS SHOWS MEMORY IS NOT JUST IN THE
HEAD BUT IN THE CHEMISTRY OF THE WHOLE
BODY—WHEN AN EDUCATED PLANARIAN
WAS CHOPPED UP AND FEED TO UNTRAINED
ONES, THEY LEARNED MORE QUICKLY!



PHYLUM - platyminthes
CLASS 1. - Turbellaria
CLASS 2. - Trematoda
CLASS 3. - Cestoda

(flatworms)

THESE WORM
EXPERIMENTS
RELATE MEMORY
TO TOTAL BODY
CHEMISTRY AND
MAY LEAD TO
CHEMICAL ADDI-
TIVES TO DIET THAT
WILL MAKE SLOW
HUMAN LEARNERS
BRIGHT AND QUICK!

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OUR NEW AGE

—by—
ATHELSTAN SPILHAUS
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INSTITUTE OF TECHNOLOGY



MONEY FROM THE 10TH TO THE 5TH CENTURIES B.C. WAS BITS OF BRONZE OR SILVER WHICH WERE WEIGHED AND BROKEN TO MAKE CHANGE.

COINS

MAKE ABOUT \$8 IN CHANGE FOR EACH PERSON IN THE UNITED STATES. BILLIONS ARE MINTED EACH YEAR TO MEET THE NEEDS OF MORE PEOPLE AND TO REPLACE THE 5% OF ALL COINS WHICH ARE CONSUMED—WORN OUT, LOST OR HOARDED BY COLLECTORS.



BUT THE MINT OFTEN CAN'T KEEP UP—AT CHRISTMAS TIME, FOR WANT OF CHANGE, SALES ARE OFTEN LOST.

COINS USED TO BE OF PRECIOUS METAL WHOSE WEIGHT AND PURITY WERE GUARANTEED—NOW SILVER COINS ARE THE ONLY ONES WHOSE VALUE APPROACHES FACE VALUE.



METAL MONEY



20 CENTS WORTH OF COPPER MAKES \$1 WORTH OF PENNIES. PAPER MONEY AND CREDIT CARDS WILL SOMEDAY TURN ALL COINS INTO COLLECTORS' ITEMS!



OUR NEW AGE

by Athelstan Spilhaus

OIL from STONE

OIL BEARING ROCKS—MARLSTONE—IN THE ROCKY MOUNTAINS ARE ESTIMATED TO CONTAIN 4 TIMES THE KNOWN RESERVES OF ORDINARY OIL WELLS IN THE WORLD! COMMONLY KNOWN AS "OIL SHALE," MARLSTONE CONTAINS KEROGEN, WHICH CAN PRODUCE OIL!

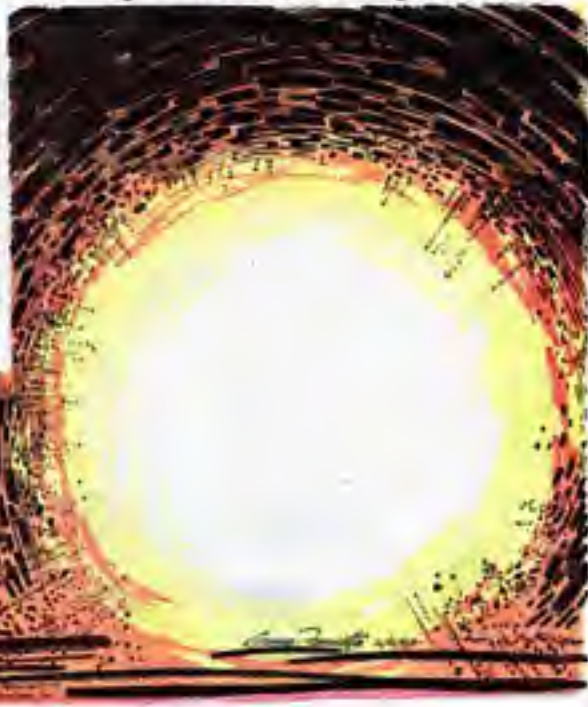


IN AN EXPERIMENTAL PLANT IN COLORADO, CRUSHED MARLSTONE IS HEATED TO OVER 860° F. TO VAPORIZE THE KEROGEN, WHICH THEN CONDENSES AS A THICK OIL.



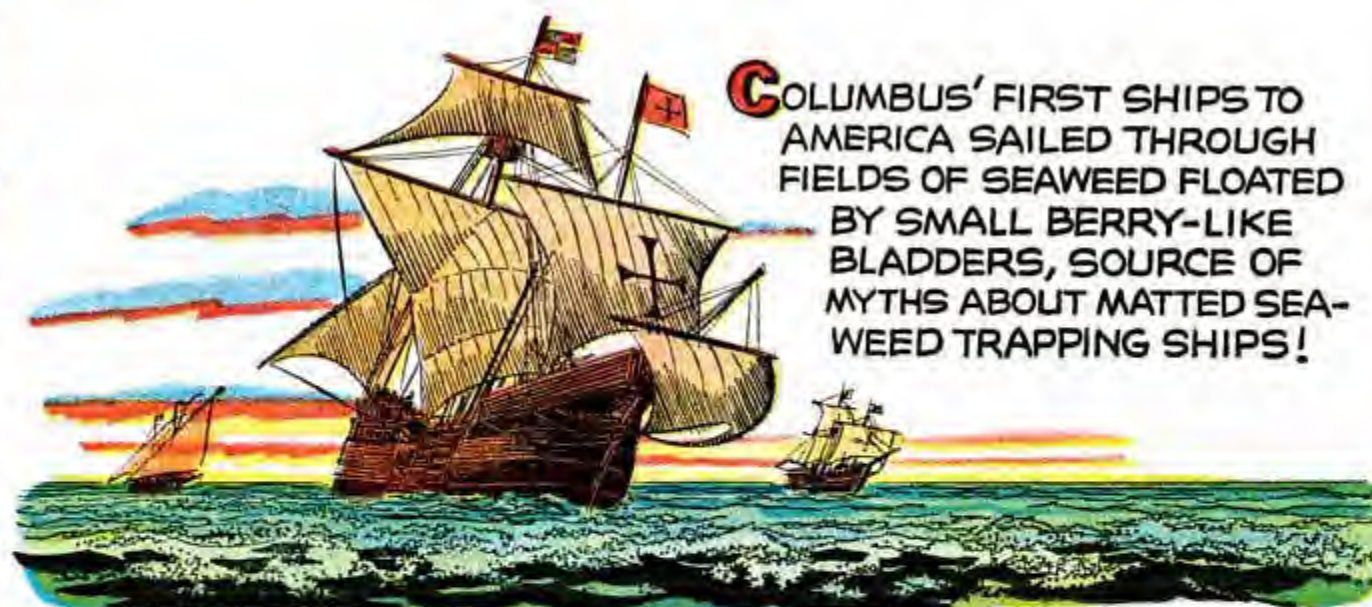
BUT MINING AND CRUSHING ARE EXPENSIVE AND IT MAY BE BETTER TO RELEASE THE OIL BY HEAT IN THE MARLSTONE IN PLACE,...

...BY BURNING PART OF THE KEROGEN IN A DEEP WELL, OR EVEN BY USING AN ATOMIC BOMB, AND THEN PUMPING UP THE OIL!



OUR NEW AGE

— by —
ATHELSTAN SPILHAUS
DEAN, UNIVERSITY OF MINNESOTA
INSTITUTE OF TECHNOLOGY



SOME SEAWEEEDS ARE BIG RELATIVES OF THE ALGAE—POND SCUM—THAT MAY PRODUCE OXYGEN FOR FUTURE SPACE EXPEDITIONS.

SALT WATER GARDENING

SEAWEEEDS GIVE US FERTILIZER, IODINE, ALGIN (THAT PREVENTS ICE CRYSTALS IN ICE CREAM AND SALAD DRESSING FROM SEPARATING) AND AGAR USED IN FOOD AND DRUGS! THE JAPANESE, WHO ENJOY EATING SEAWEEED, CULTIVATE IT ON SUBMERGED FENCES!



IN FACT, HALOPHYTES—SALT-LOVING PLANTS LIKE ASPARAGUS AND MANGROVE WHICH CONCENTRATE SALTS—ARE A POSSIBLE WAY TO DESALT WATER!



SO FUTURE SALT WATER GARDENS MAY GIVE US FRESH WATER AND USEFUL SALTS—AND WE MAY HYBRIDIZE AND BREED THE SEAWEEEDS INTO SEA FRUITS AND VEGETABLES FOR OUR TABLES!



BUT OUR COMMON BEETS, COTTON AND DATE PALMS ALSO CAN GROW IN WATER ALMOST 1/3 AS SALTY AS THE SEA.

Gene Fawcett 12/19/68

OUR NEW AGE

by
ATHLETICAM
SPILNAME

THE ASSOCIATED PRESS

ASSISTANT DOC

PHYSICIANS'
ASSISTANTS WILL BE
TRAINED AT DUKE
UNIVERSITY...



...TO HELP MEET
THE DOCTOR
SHORTAGE!

OUR NEW AGE

by
ATHLETICAM
SPILNAME

OLD CURES TURN MODERN

OF 175
ANCIENT
INDIAN
MEDICINAL
HERBS,
64 HAVE
BEEN
FOUND
PROMISING
FOR —



MODERN
MEDICINE!

OUR NEW AGE

by
ATHLETICAM
SPILNAME

SLOW THINKER

YOUR THOUGHTS
ARE CARRIED BY
NERVE IMPULSES AT
UP TO —



—BUT—



—THE POOR
JELLYFISH "THINKS"
AT ONLY ABOUT HALF
A MILE AN HOUR!



OUR NEW AGE

by
ATHELSTAN SPILHAUS
DEAN, UNIVERSITY OF MINNESOTA
INSTITUTE OF TECHNOLOGY



THE HUMAN BODY IS A COMPLICATED ELECTRICAL COMMUNICATION NETWORK CARRYING INFORMATION UP NERVES FOR THE BRAIN TO STORE OR BACK DOWN TO CONTROL BODY CHEMISTRY OR MUSCLES.



A RABBIT USES 100 MILLION INDIVIDUAL NERVE FIBERS JUST TO TRANSMIT SMELL MESSAGES FROM ITS NOSE TO ITS BRAIN.



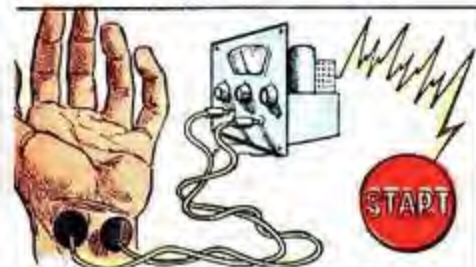
WHEN YOU SENSE SOMETHING, ELECTRIC PULSES TRAVEL UP YOUR NERVES TO THE BRAIN—THE MORE PULSES (UP TO HUNDREDS PER SECOND), THE MORE INTENSE THE SENSATION.



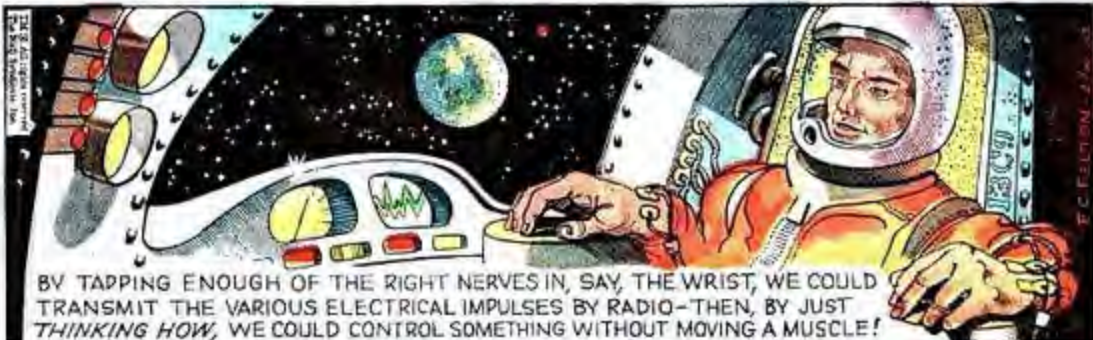
BIOPHYSICISTS PUT ELECTRIC CHARGES INTO SELECTED NERVES AND ARTIFICIALLY PRODUCE DIFFERENT SENSATIONS—EVEN OF PLEASURE—to ELECTRICALLY "REWARD" ANIMALS AS THEY LEARN.



THE BRAIN ALSO GENERATES ELECTRIC PULSES THAT TRAVEL BACK DOWN OTHER NERVES TO SET MUSCLES WORKING.



THESE MESSAGES CAN BE "TAPPED," THEN AMPLIFIED AND RECORDED, OR TRANSMITTED BY RADIO TO START OR STOP MOTORS.

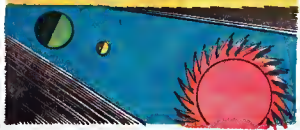


BY TAPPING ENOUGH OF THE RIGHT NERVES IN, SAY, THE WRIST, WE COULD TRANSMIT THE VARIOUS ELECTRICAL IMPULSES BY RADIO—THEN, BY JUST *THINKING HOW*, WE COULD CONTROL SOMETHING WITHOUT MOVING A MUSCLE!

UNEARTHLY INFLUENCES ON WEATHER, DISCOUNTED IN THE PAST, HAVE NOW BEEN SHOWN TO EXIST. IN THE TROPICS THE BAROMETER CHANGES 0.2% WHEN THE SUN AND MOON ARE IN LINE WITH THE EARTH AND COMBINE THEIR TIDAL PULLS AT NEW AND FULL MOON. TIDAL PULL IS LEAST WHEN THE MOON IS AT RIGHT ANGLES (FIRST AND LAST QUARTER)



NOW THE **NATIONAL CENTER FOR ATMOSPHERIC RESEARCH** COMPUTER ANALYSES OF 60 YEARS OF DATES OF NORTH ATLANTIC HURRICANES SHOW THEY FORM MORE FREQUENTLY WHEN SUN AND MOON ARE PULLING TOGETHER!



AND 16,000 RECORDS OVER 50 YEARS INDICATE THAT THE HEAVIEST RAINS MOST OFTEN COME AFTER FULL AND NEW MOON.



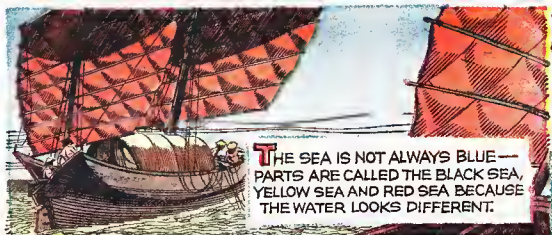
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The Hall of Fame



THIS MAY NOT HELP WEATHER PREDICTION, BUT IT SHOWS HOW A LITTLE PUSH AT THE TOP OF A SWING—LIKE A CHILD'S SWING—CAN PRODUCE GREAT EFFECTS!! THE QUESTION IS HOW AND WHY?

OUR NEW AGE

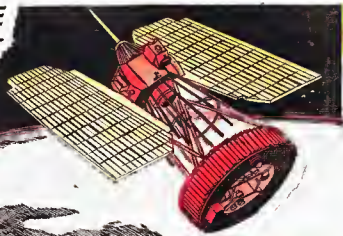
— by —
ATHELSTAN SPILHAUS
UNIVERSITY OF MINNESOTA
INSTITUTE OF TECHNOLOGY



THE SEA IS NOT ALWAYS BLUE—PARTS ARE CALLED THE BLACK SEA, YELLOW SEA AND RED SEA BECAUSE THE WATER LOOKS DIFFERENT.

FISHING BY SATELLITE

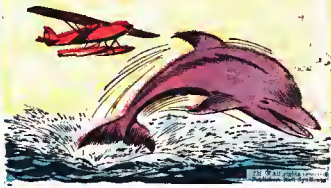
SPACE SATELLITES MAY HELP FISHERMEN BY DETECTING CHANGES IN THE SEA'S COLOR WITH SPECTROMETERS. WATER RICH WITH PLANT FISH FOOD (CHLOROPHYLL ABSORBS BLUE) LOOKS YELLOWISH-GREEN. PURE BLUE IS THE COLOR OF STERILE OCEAN "DESERTS".



MARINE PLANTS AND ANIMALS CONCENTRATE IODINE AND MAY BE LOCATED BY ITS PRESENCE... INFRARED LIGHT SHOWS OIL SLICKS THAT RISE WHEN TUNA FEED.



FOR YEARS AIRCRAFT HAVE BEEN USED BY FISHERMEN TO SPOT SCHOOLS OF FISH OR FOLLOW PORPOISES TO WHERE TUNA ARE.

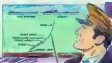


Carle Doucette speaks
NOW SATELLITES MAY TAKE OVER TO TRACK AND LOCATE FISH IN THE WORLD OCEAN, TRANSMIT RADIO FACSIMILE MAPS TO GUIDE FISHERMEN AND FORECAST THE SIZE OF THE CATCH FOR THE CANNERIES!

OUR
NEW
AGE

DECEMBER 1987

THE BRANDED-WAY SYSTEM
ECONOMICAL, EASY TO USE, EASY
TO LEARN, AND EASY TO TEACH
THE BRANDED-WAY SYSTEM IS THE
ONLY SYSTEM THAT CAN BE
TEACHED IN A SHORT TIME
AND LEARNED BY ANYONE
WITH A MINIMUM OF
INSTRUCTION. THE BRANDED-WAY
SYSTEM IS THE ONLY SYSTEM
THAT CAN BE TAUGHT IN A
SHORT TIME AND LEARNED BY
ANYONE WITH A MINIMUM OF
INSTRUCTION.

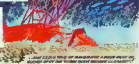


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EPIDEMIOLOGY



1. The first step is to identify the problem. In this case, the problem is that the system is not working properly.



...and the other two are the same as the first two, but with the first two digits reversed.



OUR NEW AGE

Abstract



2014-2015
2015-2016
2016-2017
2017-2018
2018-2019
2019-2020
2020-2021
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THE NEW YORK

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These 3-megapixel stills feature different backgrounds
 100% natural, organic and sustainable
 100% organic, natural and sustainable

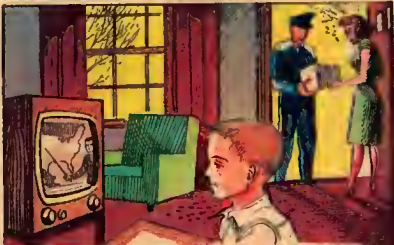
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OUR NEW AGE

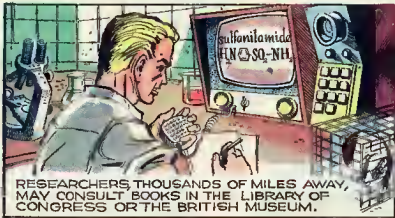
— by —
ATHELSTAN SPILHAUS
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INSTITUTE OF TECHNOLOGY



THE MOON HAS REAL USES
BESIDES THE EXCITEMENT
OF JUST GETTING THERE AND
KNOWING MORE ABOUT IT—IT
MAY BECOME A WAY STATION
TO SPACE...



OLD FASHIONED MAIL SERVICE
WILL HANDLE ONLY PARCELS —
CHILDREN MAY LEARN AT HOME
AND ONLY GO TO "SCHOOL" FOR PLAY.



RESEARCHERS, THOUSANDS OF MILES AWAY,
MAY CONSULT BOOKS IN THE LIBRARY OF
CONGRESS OR THE BRITISH MUSEUM.

OUR NEW AGE

A **BIG** & A **WIDE** RANGE OF
SCIENTISTS — A **BIG** REPRESENTATIVE
FACET OF OUR ENVIRONMENT — SUCH
AS **SAVANNAS**, **DESERTS**, **RAIN**
FORESTS, **DESERTS** OR **TUNDRA**,
BRINGING US AN **OPPORTUNITY** FOR
THEIR **WIDE** RANGE OF **DIFFERENT**
LIFE, YET **PLANT** LIFE IS
OFTEN **WIDE**.



By **Arthelston Spitham**

SCIENTISTS **THINK**
TECHNOLOGY **STUDIES**
EVERYTHING IS **NOT**
RELATION TO **THE**
REAL... **AND** **MAKING**
TECHNOLOGY **STUDIES**
— **SCIENTISTS** **STUDY** IN
LAND, **AIR** **AND** **WATER**
LIFE, **PLANTS** **AND**
TREES...



WORKING **WITH** **MATHEMATICS** **AND** **AND**
CONCEPTS **TO** **BUILD** **MATHEMATICAL**
KNOWLEDGE **OF** **THE** **COMPLEX** **INTERACTIONS**
INCLUDING **OF** **COLLAGE**, **THE** **EFFECTS**
OF **WALL**.



THEIR **ANALYSIS**
AS **THEY** **REVEAL**
AND **NOT** **ONLY**
REVEAL **CAUSAL**
RELATIONS, **BUT** **AND**
REVEAL **THE** **WIDE** **RANGE** **OF**
ANALYSIS **AND** **CONCEPTS**
OF **THE** **WIDE** **RANGE** **OF**
REVEAL **THE** **WIDE** **RANGE** **OF**
REVEAL **THE** **WIDE** **RANGE** **OF**

Arthelston Spitham



TO KEEP ABREAST, MANY PEOPLE WILL
HAVE TO WORK IN SHIFTS AROUND THE
CLOCK— BECAUSE MIDNIGHT HERE
IS MIDDAY ELSEWHERE.



IN THE U.S. THERE
ARE PLANS TO HAVE
EXOTIC WHEEL-LESS
TRAINS IN TUBES
TRAVELING AT
HUNDREDS OF
MILES AN HOUR!

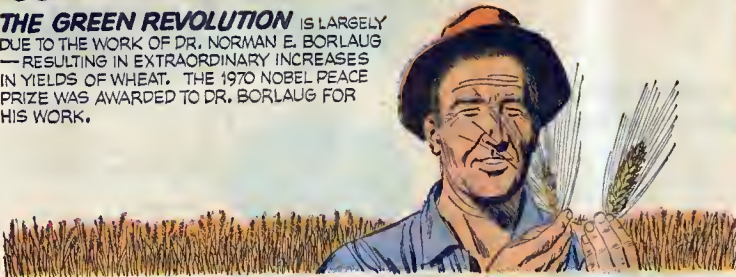


TO SOLVE AUTO TRAFFIC JAMS, CITY TRANS-
PORT MAY MOVE 5 OR 6 PASSENGERS LIKE
PEAS IN A POD, SUPPORTED AND BLOWN
ALONG BY JETS OF AIR THROUGH TUBES SMALL
ENOUGH TO PASS RIGHT THROUGH BUILDINGS
OR STOP IN THEM.



OUR NEW AGE

THE GREEN REVOLUTION IS LARGELY DUE TO THE WORK OF DR. NORMAN E. BORLAUG — RESULTING IN EXTRAORDINARY INCREASES IN YIELDS OF WHEAT. THE 1970 NOBEL PEACE PRIZE WAS AWARDED TO DR. BORLAUG FOR HIS WORK.

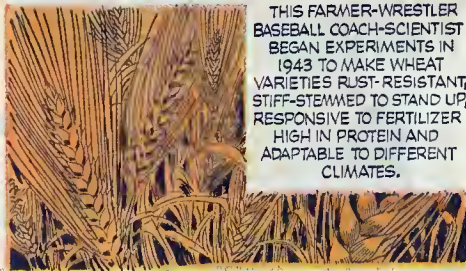


RESULTS WERE INCREASED YIELDS IN INDIA AND PAKISTAN FROM 10 BUSHELS OF WHEAT PER ACRE TO AN AVERAGE OF 50, AND SOME-TIMES 150, BUSHELS PER ACRE.



By Athelstan Spilhaus

THIS FARMER-WRESTLER BASEBALL COACH-SCIENTIST BEGAN EXPERIMENTS IN 1943 TO MAKE WHEAT VARIETIES RUST-RESISTANT, STIFF-STEMMED TO STAND UP, RESPONSIVE TO FERTILIZER HIGH IN PROTEIN AND ADAPTABLE TO DIFFERENT CLIMATES.



BUT EVEN WITH THIS MAMMOTH JUMP BY AGRICULTURAL SCIENTISTS IN FOOD FOR THE WORLD, DR. BORLAUG WARNS "IT ONLY BUYS ABOUT 20 YEARS OF TIME," IN WHICH TO BRING POPULATION INTO BALANCE!



Gene Fawcette



OUR NEW AGE

— by —
ATHELSTAN SPILHAUS
DEAN, UNIVERSITY OF MINNESOTA
INSTITUTE OF TECHNOLOGY

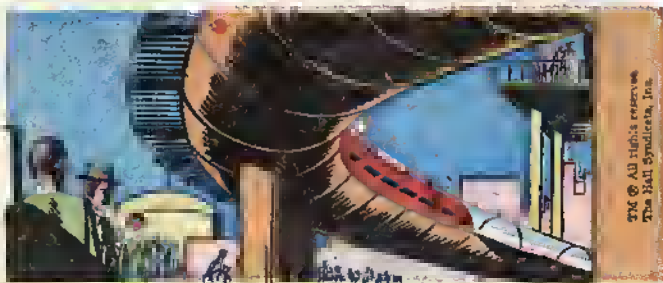


CITIES ORIGINALLY JUST GREW NEAR WATER POWER OR COAL, WHERE TRADE ROUTES CROSSED OR WHERE VALUABLE NATURAL RESOURCES WERE CONCENTRATED.

EXPERIMENTAL CITY

CITIES — MACHINES FOR LIVING — ARE NOW SPRINGING UP ALL OVER THE WORLD WITHOUT PROPER PLANNING — WITH THE RESULT THAT AIR, LAND AND WATER ARE POLLUTED, TRAFFIC AND SEWERS ARE CONGESTED AND SCHOOLS OVERFLOW.

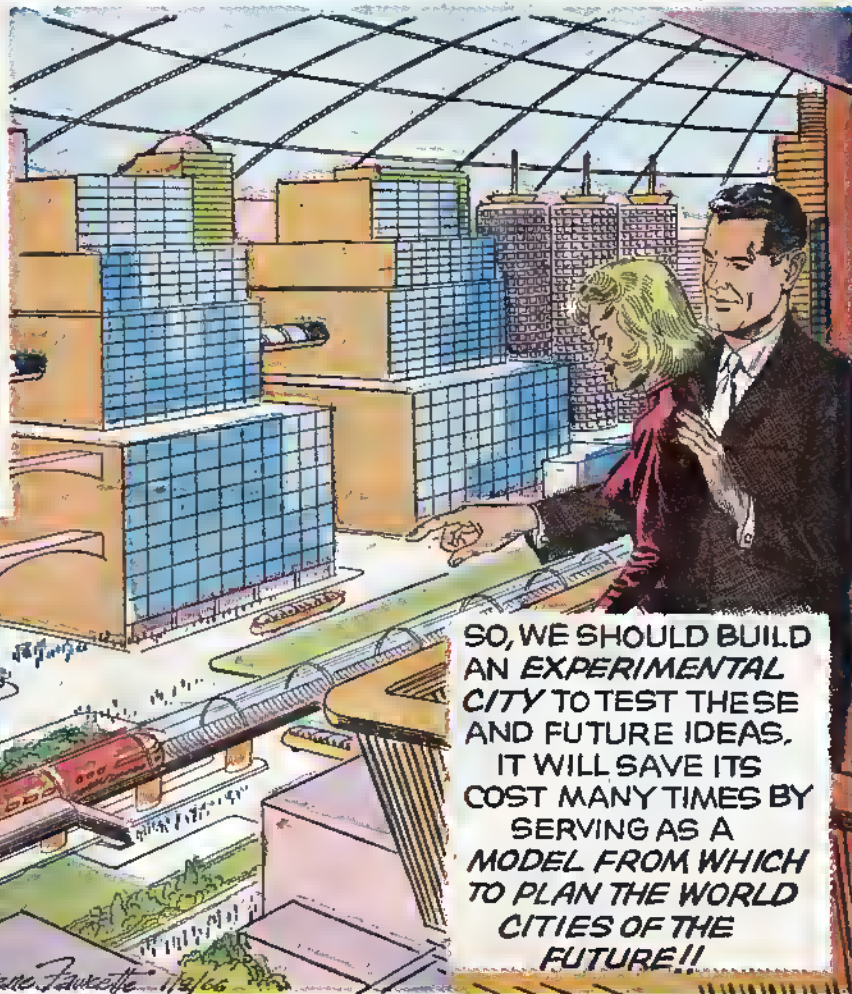
NO ENGINEER WOULD MASS-PRODUCE ANYTHING ELSE WITHOUT FIRST BUILDING AN EXPERIMENTAL MODEL TO MAKE SURE IT WORKS!



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PERHAPS INDUSTRIES CAN BE GROUPED TO REUSE THEIR RESIDUES AND WATER — EVEN THEIR PLANTS CONSTRUCTED FOR EASE OF DISASSEMBLY AND REUSE — LUXURIOUS MASS TRANSPORTATION COULD MAKE AUTOMOBILES UNNECESSARY.

LARGE PARTS OF THE CITIES CAN BE COVERED TO CONTAIN THEIR OWN CLIMATE, AND HOMES, FACTORIES AND CHURCHES MAY BE WIRED FOR CLOSED CIRCUIT T.V., SO THAT ENTERTAINMENT, NEWS AND EDUCATION MAY BE PIPED ANYWHERE!



SO, WE SHOULD BUILD AN *EXPERIMENTAL CITY* TO TEST THESE AND FUTURE IDEAS. IT WILL SAVE ITS COST MANY TIMES BY SERVING AS A *MODEL FROM WHICH TO PLAN THE WORLD CITIES OF THE FUTURE!!*



OUR NEW AGE

... ..



DO NOT TAKE GLAUCOMA MEDICATIONS WITHOUT
PRE-APPROVAL. INCREASED INTRAOCULAR PRESSURE
MAY OCCUR WITH USE.

TOYS

epidemiologic data, such as the finding of a relationship between blood transfusion and leukemia, and the fact that a virus could cause the disease. In fact, the only way to prove the link would be to infect a healthy person with the virus and see if he or she developed leukemia. But that's not an option.



WORLDWIDE PHARMACEUTICALS, AUSTIN
WYETH, BRIDGEWATER, N.J.
WYETH LABORATORIES, KENILWORTH, N.J.



Young men and women who are interested in a career in the health care field should consider the many opportunities available in the field of health care. The field of health care is a dynamic and ever-changing industry that offers a wide range of career options. From medical assistants to registered nurses, from physical therapists to health care administrators, there are many ways to make a difference in the lives of others. The field of health care is a rewarding and challenging career choice that offers the opportunity to make a positive impact on the community. For more information on the many opportunities available in the field of health care, visit www.healthcareers.com.



THIS AGENT AND PARTICIPANTS
CONSENT TO THE RELEASE OF ANY AND ALL
SPACE-RELATED INFORMATION TO THE PUBLIC

[illegible]

Merry Christmas!

SYNTHETIC FOOD

MAY BE THE
ANSWER TO THE PRESENT
WORLD FOOD CRISIS, AS
MODERN AGRICULTURE IN
FOOD-SHORT COUNTRIES
MAKES GAINS TOO SLOWLY
TO OFFSET POPULATION
INCREASE.



**OUR
NEW
AGE**

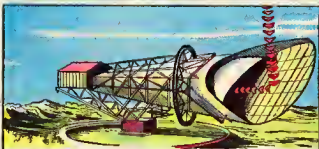
by
**ATLANTIC
SPECIALS**

**"LAZY" SEA"
BRAND**

**INSTEAD OF
ATTACHING TAGS
TO FISH, CANADIANS
ARE BRANDING FISH
WITH A HOT IRON...**



**...JUST LIKE WESTERN
CATTLE RANCHERS!**



COMMUNICATION SATELLITES WILL REVOLUTIONIZE LIFE IN THE NEXT FEW YEARS BY RELAYING MORE MESSAGES FASTER FROM ANYWHERE- AS CHEAPLY AS UNDERSEA CABLES.

Our New Age

By SPILHAUS-EVANS

DO YOU UNDEREAT?

Eating too little may be as harmful as over-eating! Some psychologists think that under-eaters are frustrated, have a low opinion of themselves, and consequently 'punish' their bodies!



OUR NEW AGE

by
ATHELSTAN SPILHAUS

TECHNICAL EDITOR: J. L. SPILHAUS
ARTIST: J. L. SPILHAUS



OVER 300 YEARS AGO WHEN THE MOON WAS FIRST SEEN THROUGH TELESCOPES THE DARKER AREAS WERE CALLED "SEAS" AND "OCEANS" — WE KNOW NOW THEY CERTAINLY AREN'T WATER!

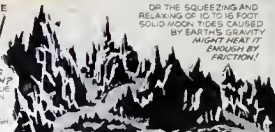
WITH THE MOON'S LOW GRAVITY FREE WATER WOULD EVAPORATE AND ESCAPE INTO SPACE

IS THE INSIDE OF THE

MOON

COLD OR HOT?

WERE THE CRATERS MADE BY METEORITES OR VOLCANOES OR BOTH? SOME SCIENTISTS ARGUE THAT EVEN IF THE MOON WAS FORMED COLD, RADIOACTIVITY WOULD HEAT ITS CENTER ENOUGH FOR VOLCANOES



OR THE SQUEEZING AND RELAXING OF 10 TO 15 FOOT SOLID MOON TIDES CAUSED BY EARTH'S GRAVITY MIGHT HEAT IT ENOUGH BY FRICTION!



BUT OTHERS SAY THAT IT CAN'T BE HOT AND MOLTEN OR THE BULGE ON THE SIDE FACING EARTH WOULD HAVE SUNK DOWN.



WE WON'T KNOW TILL A "PROSPECTOR" — AUTOMATIC OR HUMAN — GETS THERE. BUT IF A HOT CORE IS FOUND AND THEREFORE VOLCANOES, IT'S PRETTY IMPORTANT FOR MOON COLONISTS. BECAUSE THEY CAN FIND IN VOLCANIC ROCKS AND LAVA WATER, PUMICE FOR BUILDING BLOCKS, SULPHUR FOR CEMENT AND EVEN NATURAL CAVES FOR SHELTER!

OUR NEW AGE

ATHELSTAN SPILHAUS
TEACH, UNIVERSITY OF MINNESOTA,
LUNAR TECHNOLOGY



THE MOON'S SURFACE IS ALL LAND, WITH AN AREA
1/4 THAT OF EARTH'S DRY LAND.

THAT'S A LOT OF TERRITORY TO
EXPLORE!



WE'LL NEED "MOONMOBILES"

TO MOVE AROUND
IN WHEN WE REACH
THE MOON. IN THE
LOWER GRAVITY
THERE, THEY'LL
WEIGH ONLY 1/6TH
OF THEIR EARTH
WEIGHT, BUT MUST
OPERATE IN BOILING
TO DEEP-FREEZE
TEMPERATURES!



TRACKS,
WHEELS, OR
ROLLERS MUST
BE ABLE TO
NEGOTIATE SMOOTH
OR ROUGH, LEVEL OR
STEEP, ROCKS OR DEEP
FINE DUST.

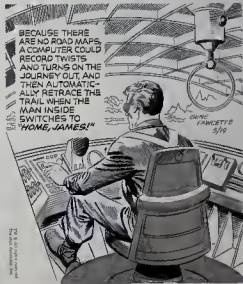


THEIR ENGINES CAN'T BURN "MOON AIR"
THAT ISN'T THERE, SO THEIR CABINS MUST
BE "LEAK PROOF" TO KEEP AIR IN--AND
SHIELDED TO KEEP COSMIC OR ULTRA-
VIOLET RAYS AND METEORITES OUT!

THE EXPLORER
WILL LIVE IN
THIS TRAVELING
"ROOMETTE"
AND GATHER
SPECIMENS,
HANDLE TOOLS,
AND REMOVE
OBSTACLES
WITH REMOTE
CONTROL ARMS.



BECAUSE THERE
ARE NO ROAD MAPS,
A COMPUTER COULD
RECORD TWISTS
AND TURNS ON THE
JOURNEY OUT, AND
THEN AUTOMATIC-
ALLY RETRACE THE
TRAIL WHEN THE
MAN INSIDE
SWITCHES TO
"HOME, JAMES!"



THE
MOON
ROVER
DESIGNED
BY
ATHELSTAN
SPILHAUS

JOHN
FARRETT
5/10

OUR NEW AGE

— by —
ATHELSTAN SPILHAUS
DEAN, UNIVERSITY OF MINNESOTA
INSTITUTE OF TECHNOLOGY



FIERY VOLCANIC
LAVA WHICH WIPES OUT
PEOPLE AND CITIES ALSO
TURNS INTO FERTILE SOIL
THAT MAKES THEM RETURN...

...AND GROW GRAPES ON THE
SLOPES OF ETNA AND SUGAR IN
HAWAII.



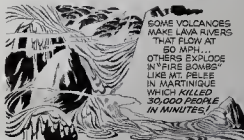
VOLCANOES

ERUPT WHEN "MAGMA" (MOLTEN
ROCK, STEAM AND GASES),
FORCED UP FROM TENS
OF MILES BELOW,
SPILLS OVER!



BOB FANCETTE
8/20/66

80% OF THE 500 ACTIVE VOLCANOES
ARE IN A RING AROUND THE PACIFIC
OCEANS WHERE MOUNTAINS GROW
BECAUSE OF DISRUPTIONS OF THE
EARTH'S CRUST!



SOME VOLCANOES
MAKE LAVA RIVERS
THAT FLOW AT
60 MPH...
OTHERS EXPLODE
IN "FIRE BOMBS"
LIKE MT. PELEE
IN MARTINIQUE
WHICH KILLED
30,000 PEOPLE
IN MINUTES!



SOME WELL UP SLOWLY...TOURISTS CAN
WATCH KILAUEA IN HAWAII; OTHERS BLOW
THEIR TOPS LIKE KRAKATOA, WITH A BANG
HEARD 3000 MILES AWAY!

BY ANALYZING THE
MANY SMALL EARTH
TREMORS WHICH PRE-
CEDE ERUPTIONS
SCIENTISTS HOPE
SOON TO FORECAST
THEM AND HAVE A
WORLD WIDE
VOLCANIC
WARNING
SERVICE.

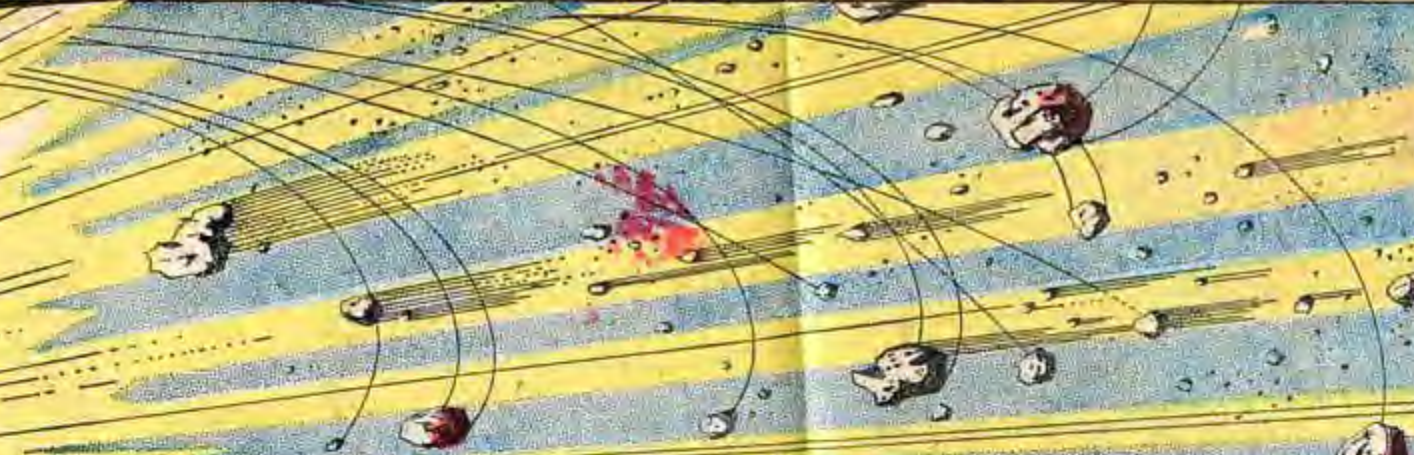
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OUR NEW AGE

by
ATHELSTAN SPILHAUS
DEAN, UNIVERSITY OF MINNESOTA
INSTITUTE OF TECHNOLOGY



METEORIDS, BITS OF PLANET-LIKE MATERIAL OF ALL SIZES, CIRCLE AROUND THE SUN — **A THOUSAND TONS** OF METEOR DUST FALL TO EARTH EACH DAY. WE CAN COUNT THESE BITS — ROUGHLY...



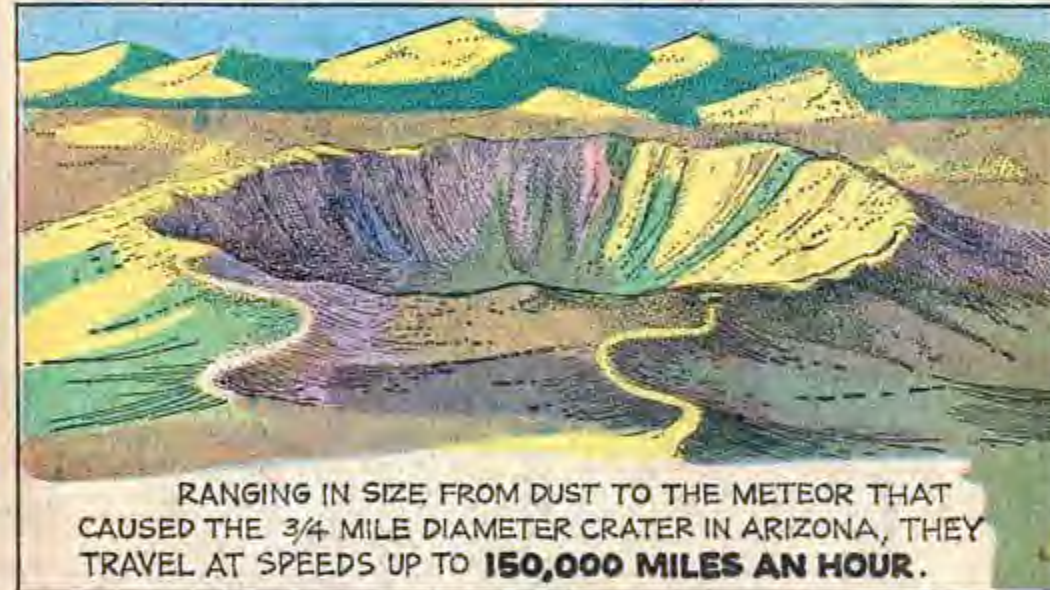
BY NOTING HOW THEY REFLECT LIGHT AND RADIOWAVES, BY COUNTING SHOOTING STARS, BY LISTENING TO OUR "BOMBARDED" SATELLITES.



SHOOTING STARS ARE METEORS PASSING THROUGH THE EARTH'S ATMOSPHERE. WHEN THEY HIT GROUND, WE CALL THEM METEORITES.



THOSE FOUND ARE IRON-NICKEL LIKE THE EARTH'S CORE, OR ROCKY LIKE THE EARTH'S CRUST, SUGGESTING THEY MAY BE FRAGMENTS OF AN EARTH-LIKE PLANET THAT HAD A COSMIC ACCIDENT.



RANGING IN SIZE FROM DUST TO THE METEOR THAT CAUSED THE 3/4 MILE DIAMETER CRATER IN ARIZONA, THEY TRAVEL AT SPEEDS UP TO **150,000 MILES AN HOUR**.



COLLISION WITH METEORS IN SPACE IS A SERIOUS DANGER — YOU MIGHT EXPECT TWO PUNCTURES ON A TRIP TO MARS, MORE EN ROUTE TO VENUS.



FOR PROTECTION — A THIN SHEET OF METAL SURROUNDING A SPACE SHIP WILL SHATTER METEORS BEFORE THEY DO ANY DAMAGE — AND ACT AS A "**METEOR BUMPER**".

F.C. FELTON
7-28

Our New Age

By SPILHAUS-EVANS

PIPES IN THE SKY

Temperature layers in the atmosphere 30 to 80 miles up act as a speaking tube that pipes sound waves long distances!



* Send your science questions to "OUR NEW AGE" in care of this newspaper.

SPACE WEATHER FORECAST

weather
radiation
storms
to
viability
of
EARTH

OUR NEW AGE

by **ATHILSTAN SPILHAUS**

DEPT. OF AERONAUTICS AND SPACE
NATIONAL ACADEMY OF SCIENCES

CLOUDS OF ELECTRICAL
PARTICLES FROM THE SUN'S
MILLION DEGREE CORONA
SHOOT OUT AND ENVELOPE
THE EARTH AND PLANETS.



SOME OF THESE SPACE CLOUDS
MAY BE DEADLY TO INTER-
PLANETARY TRAVELERS

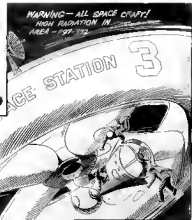
SPACE TRAVEL
WON'T BE ALL
PLAIN SAILING.
DANGEROUS
CLOUDS OF
RADIATION FROM
THE SUN MAY
HAVE TO BE
AVOIDED.



THESE
ELECTRIFIED
CLOUDS REFLECT
HIGH POWER, HIGH
FREQUENCY RADAR
PULSES.



WARNING - ALL SPACE CRAFT!
HIGH RADIATION IN
AREA - 757-102



IT WILL WARN INTERPLANETARY
SPACE CRAFT OF SOLAR STORM
CLOUDS ENROUTE AND WE'LL
EVEN HAVE FORECASTS FROM
THE **SOLAR SYSTEM WEATHER**
BUREAU!



AND JUST AS RADAR WATCHES AND
TRACKS STORMS OF THE EARTH'S WEATHER
IT CAN BE USED TO CHART THE ELECTRICAL
WEATHER OF OUR SOLAR SYSTEM.